Cosmetic resurfacing for melasma: Effective treatments and results.

Sohrab Faezi*

Department of Health Research, Baqiyatallah University of Medical Sciences, Iran

Introduction

Melasma is a common hyperpigmentation disorder that affects millions worldwide, particularly individuals with darker skin tones and those exposed to excessive sunlight. Characterized by brown or grayish patches on the face, melasma is often resistant to treatment [1].

Cosmetic resurfacing techniques have emerged as effective solutions for managing and reducing melasma, offering promising results for individuals seeking a clearer complexion. This article explores various resurfacing treatments, their effectiveness, risks, and scientific evidence supporting their use [2].

Understanding Melasma Melasma is caused by excessive melanin production due to factors such as hormonal changes, UV exposure, and genetic predisposition. It primarily affects the cheeks, forehead, upper lip, and chin, making it a challenging condition to treat. While topical treatments like hydroquinone and retinoids are commonly prescribed, many patients turn to cosmetic resurfacing techniques for long-term improvement [3].

Chemical peels, such as glycolic acid, salicylic acid, and trichloroacetic acid (TCA) peels, help exfoliate the skin and reduce pigmentation. Studies show that repeated sessions of chemical peels significantly improve melasma symptoms [4].

This technique involves the mechanical exfoliation of the outer skin layer, enhancing cell turnover and promoting even skin tone [5].

Fractional laser, Q-switched Nd:YAG laser, and picosecond laser are widely used for melasma treatment. Research indicates that laser treatments, particularly when combined with topical therapy, provide effective and lasting results [6].

Microneedling enhances the penetration of topical agents like tranexamic acid, improving pigmentation reduction. Studies confirm that this combination yields better outcomes than microneedling alone [7].

IPL therapy targets melanin and vascular components of melasma, effectively lightening hyperpigmented patches. Many dermatologists recommend combining resurfacing techniques, such as laser therapy and chemical peels, for optimal results. A combination of TCA peels and microneedling has shown significant success in clinical trials [8].

While cosmetic resurfacing treatments offer promising results, certain risks should be considered: Individuals with darker skin tones are at higher risk of developing PIH after aggressive resurfacing treatments. Chemical peels and laser treatments can cause temporary redness, peeling, and irritation [9].

Post-treatment sun protection is crucial to prevent melasma recurrence and worsening pigmentation. Found that glycolic acid peels improved melasma in 70% of patients after six sessions. Demonstrated that microneedling with tranexamic acid led to a 60% reduction in melasma severity. Reported that fractional laser combined with hydroquinone provided superior long-term results compared to laser alone [10].

Conclusion

Cosmetic resurfacing treatments offer effective solutions for melasma management, providing significant improvement in skin tone and texture. While chemical peels, microneedling, laser therapy, and IPL show promising results, a personalized approach tailored to the patient's skin type and severity of melasma is crucial. Future research and advancements in aesthetic dermatology will continue to refine these techniques, ensuring safer and more effective treatment options.

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^{*}Correspondence to: Sohrab Faezi, Department of Health Research, Baqiyatallah University of Medical Sciences, Iran. E-mail: f.sohrab@yahoo.com Received: 03-Apr-2025, Manuscript No. AADRSC-25-163876; Editor assigned: 04-Apr-2025, PreQC No. AADRSC-25-163876(PQ); Reviewed: 17-Apr-2025, QC No AADRSC-25-163876; Revised: 22-Apr-2025, Manuscript No. AADRSC-25-163876(R); Published: 28-Apr-2025, DOI:10.35841/aadrsc-9.2.261

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